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P.O. BOX 3001			HOLDER, ANNER N	
BRIARCLIFF MANOR, NY 10510				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary**Application No.**

10/599,437

Applicant(s)KLEIN GUNNEWIEK, REINIER
BERNARDUS MARI**Examiner**

ANNER HOLDER

Art Unit

2483

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 September 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 September 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: specification should include a cross reference to related applications section.

Appropriate correction is required.

Drawings

3. Figures 1 and 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim element "means for generating...a plurality of offsets, means for searching...a first frame to matching picture element, means for selecting a first offset, means for generating displacement data for the first" is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. the specification does specifically set forth in the written description of the specification which corresponding structure, material, or acts implicitly or inherently perform the claimed function

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

7. Claim element “means for receiving the video signal comprising at least a reference frame and a predicted frame and displacement, means for determining a first picture element, means for extracting displacement data, means for generating a sub-pixel offset picture element, means for determining a location of a second picture element” is a means (or step) plus function limitation that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to disclose the corresponding structure, material, or acts for the claimed function. the specification does specifically set forth in the written description of the specification which corresponding structure, material, or acts implicitly or inherently perform the claimed function

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

(b) Amend the written description of the specification such that it expressly recites what structure, material, or acts perform the claimed function without introducing any new matter (35 U.S.C. 132(a)).

If applicant is of the opinion that the written description of the specification already implicitly or inherently discloses the corresponding structure, material, or acts so that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function, applicant is required to clarify the record by either:

(a) Amending the written description of the specification such that it expressly recites the corresponding structure, material, or acts for performing the claimed function and clearly links or associates the structure, material, or acts to the claimed function, without introducing any new matter (35 U.S.C. 132(a)); or

(b) Stating on the record what the corresponding structure, material, or acts, which are implicitly or inherently set forth in the written description of the specification, perform the claimed function. For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-14 are rejected under 35 U.S.C. 102(b) as being anticipated by Karczewicz US 6,950,469.

10. As to claim 1, Karczewicz teaches a video encoder [fig. 7 (700); fig. 6 (65); col. 24 lines 4-17; col. 26 lines 10-15] for encoding a video signal to generate video data; [fig. 7 (700); col. 26 lines 10-30] the video encoder comprising: means for generating (307), [fig. 7 (760); col. 29 lines 31-62] for at least a first picture element in a reference frame, a plurality of offset picture elements having different sub-pixel offsets; [col. 29 lines 31-62] means for searching (309), [fig. 7 (760); col. 29 lines 31-62] for each of the plurality of offset picture elements, a first frame to find a matching picture element; [col. 29 lines 31-62] means for selecting (311) [fig. 7 (760); col. 29 lines 31-62] a first offset picture element of the plurality of offset picture elements; [fig. 7; col. 29 lines 31-62] means for generating displacement data (313) [fig. 7 (780, 770, 760); col. 29 lines 31 - col. 30 lines 22; col. 30 lines 61-66; col. 31 lines 1-26] picture element, the displacement data comprising sub-pixel displacement data indicative of the first offset picture element and integer pixel displacement data indicating an integer pixel offset between the first picture element and the matching picture element; [fig. 7; col. 29 lines 31 - col. 30 lines 66; col. 31 lines 1-26] means for encoding (315) the matching picture element relative to the selected offset picture element; [col. 29 lines 31 - col. 30 lines 22; col. 30 lines 61-66; col. 31 lines 1-26] and means for including (317) [fig. 7 (724, 790); col. 31 lines 27-32] the displacement data in the video data. [col. 31 lines 15-32]

11. As to claim 2, Karczewicz teaches wherein the means for selecting (311) [fig. 7 (760); col. 29 lines 31-62] comprises means for determining a difference parameter

between each of the plurality of offset picture elements and the matching picture element and means for selecting the first offset picture element as the offset picture element having the smallest difference parameter. [fig. 7; col. 29 lines 31-62]

12. As to claim 3, Karczewicz teaches a means for generating the first picture element (305) [col. 25 lines 1-39 – microprocessor (col. 25 lines 25-30)] by image segmentation of the reference frame. [fig. 7; col. 4 lines 61-67; col. 25 lines 1-39; discloses MPEG (col. 24 lines 18-17; block based encoding, which is equivalent to segmentation of the reference frame, segment data is not required to be included with in the video under the MPEG standard]

13. As to claim 4, Karczewicz teaches wherein the video encoder is configured not to include segment dimension data in the video data. [fig. 7; col. 4 lines 61-67; col. 25 lines 1-39; discloses MPEG (col. 24 lines 18-17; block based encoding, which is equivalent to segmentation of the reference frame, segment data is not required to be included with in the video under the MPEG standard]

14. As to claim 5, Karczewicz teaches a video encoder as claimed in claim 1 wherein the video encoder is a block based video encoder and the first picture element is an encoding block. [fig. 7; col. 4 lines 61-67; col. 24 lines 4-17; col. 25 lines 1-39; discloses MPEG (col. 24 lines 18-17; block based encoding)]

15. As to claim 6, Karczewicz teaches wherein the means for generating (307) the plurality of offset picture elements is operable to generate at least one offset picture element by pixel interpolation. [col. 29 lines 31 - col. 30 lines 22; col. 30 lines 61-66; col. 31 lines 1-26]

16. As to claim 7, Karczewicz teaches wherein the displacement data is motion estimation data. [fig. 7 (760); col. 29 lines 31 - col. 30 lines 22; col. 30 lines 61-66; col. 31 lines 1-26]

17. As to claim 8, Karczewicz teaches wherein the displacement data is shift motion estimation data. [fig. 7; col. 29 lines 31 - col. 30 lines 22; col. 30 lines 61-66; col. 31 lines 1-26]

18. As to claim 9, Karczewicz teaches wherein one offset picture element of the plurality of offset picture elements has an offset of substantially zero. [col. 29 lines 31 - col. 30 lines 22; col. 30 lines 61-66; col. 31 lines 1-26]

19. As to claim 10, Karczewicz teaches a video decoder [fig. 8 (800); col. 31 lines 33-35] for decoding a video signal, [fig. 8 (800); col. 31 lines 33-35] the video decoder comprising: means for receiving (401) [fig. 8 (810); col. 31 lines 33-36] the video signal comprising at least a reference frame and a predicted frame and displacement data for a plurality of picture elements of the reference frame; [figs. 7-8; col. 31 lines 1-43] means for determining (405) a first picture element of the plurality of picture elements of the reference frame; [fig. 8; col. 31 lines 33-47; col. 31 lines 60 - col. 32 lines 22; col. 32 line 60 - col. 33 lines 25] means for extracting displacement data (409) for the first picture element comprising first sub-pixel displacement data and first integer pixel displacement data; [abstract; col. 32 line 60 - col. 33 lines 25] means for generating a sub-pixel offset picture element (407) by offsetting the first picture element in response to the first sub-pixel displacement data; [abstract; col. 29 lines 31-62; col. 35 lines 6-22] means for determining a location (411) of a second picture element in the predicted

frame in response to a location of the first picture element in the first image and the first integer pixel displacement data; [fig. 8; col. 35 lines 6-64] and means for decoding (413) [fig. 8 (800); col. 31 lines 33-35] the second picture element in response to the sub-pixel offset picture element. [fig. 8; col. 35 lines 6-64]

20. As to claim 11, Karczewicz teaches wherein the means for determining a first picture element (405) [col. 8 (830); col. 31 lines 33-47; col. 32 lines 5-49] is operable to determine the first picture element by image segmentation of the first frame. [col. 8; col. 31 lines 33-47; col. 32 lines 5-49]

21. As to claim 12, Karczewicz teaches a video decoder as claimed in claim 11 wherein the video data comprise no segment dimension data. [fig. 7; col. 4 lines 61-67; col. 25 lines 1-39; discloses MPEG (col. 24 lines 18-17; block based encoding, which is equivalent to segmentation of the reference frame, segment data is not required to be included with in the video under the MPEG standard]

22. As to claim 13, Karczewicz teaches a method of encoding a video signal to generate video data; [fig. 7; fig. 6; col. 24 lines 4-17; col. 26 lines 10-15] the method comprising the steps of: generating, for at least a first picture element in a reference frame, a plurality of offset picture elements having different sub-pixel offsets; [fig. 7; col. 29 lines 31-62] searching, for each of the plurality of offset picture elements, a first frame to find a matching picture element; [col. 29 lines 31-62] selecting a first offset picture element of the plurality of offset picture elements; [fig. 7; col. 29 lines 31-62] generating displacement data for the first picture element, [fig. 7; col. 29 lines 31 - col. 30 lines 22; col. 30 lines 61-66; col. 31 lines 1-26] the displacement data comprising

sub-pixel displacement data indicative of the first offset picture element and integer pixel displacement data indicating an integer pixel offset between the first picture element and the matching picture element; [fig. 7; col. 29 lines 31 - col. 30 lines 66; col. 31 lines 1-26] encoding the matching picture element relative to the selected offset picture element; and including the displacement data in the video data. [fig. 7; col. 31 lines 15-32]

23. As to claim 14, Karczewicz teaches a method of decoding a video signal, [fig. 8 (800); col. 31 lines 33-35] the method comprising the steps of: receiving the video signal comprising at least a reference and a predicted frame and displacement data for a plurality of picture elements of the reference frame; [figs. 7-8; col. 31 lines 1-43] determining a first picture element of the plurality of picture elements of the reference frame; [fig. 8; col. 31 lines 33-47; col. 31 lines 60 - col. 32 lines 22; col. 32 line 60 - col. 33 lines 25] extracting displacement data for the first picture element comprising first sub-pixel displacement data and first integer pixel displacement data; [abstract; col. 32 line 60 - col. 33 lines 25] generating a sub-pixel offset picture element by offsetting the first picture element in response to the first sub-pixel displacement data; [abstract; col. 29 lines 31-62; col. 35 lines 6-22] determining a location of a second picture element in the predicted frame in response to a location of the first picture element in the first image and the first integer pixel displacement data; [fig. 8; col. 35 lines 6-64] and decoding the second picture element in response to the sub-pixel offset picture element. [fig. 8; col. 35 lines 6-64]

Conclusion

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANNER HOLDER whose telephone number is (571)270-1549. The examiner can normally be reached on M-W, M-W 8 am-3 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Ustaris can be reached on 571-272-7383. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Anner Holder/
Examiner, Art Unit 2483